



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL ENVIRONMENTAL SATELLITE, DATA,  
AND INFORMATION SERVICE  
Washington, D.C. 20233

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July 29, 1993

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY


Ref: ET Docket No. 93-198

Office of the Secretary,  
Federal Communications Commission  
Washington, D.C. 20554

To the Commission:

Attached please find the comments of the National Oceanic and Atmospheric Administration, United States Department of Commerce, in response to the Commission's Notice of Inquiry in the Matter of Preparation for International Telecommunications Union World Radiocommunication Conferences.

Sincerely,

  
Richard Barth  
Director

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In the Matter of

Preparation for International  
Telecommunication Union World  
Radiocommunication Conferences)  
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ET Docket No. 93-198

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY**REPLY COMMENTS**

of the

National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA), United States Department of Commerce, provides the following Reply Comments in response to the Commission's Notice of Inquiry (NOI) in the above-captioned matter.

NOAA did not submit initial Comments in this proceeding, but Comments provided by others could, if implemented, seriously impair NOAA's ability to serve the public. These Reply Comments are therefore being provided to address these critical issues.

Among NOAA's responsibilities are the collection of environmental data and the use of these data to prepare weather forecasts and storm warnings which serve to protect the life and property of the public. Meteorological data collected by NOAA and by the meteorological organizations of other nations are exchanged, to mutual advantage, through procedures established by the World

Meteorological Organization. Among NOAA's data collection systems are meteorological satellites (METSATS) and radiosondes, or "weather balloons."

NOAA also operates the United States Search and Rescue Satellite Aided Tracking (SARSAT) satellites, which are this nation's contribution to the international COSPAS/SARSAT network. Participants in SARSAT life saving operations include other elements of the U.S. Government and a number of foreign nations.

## **WEATHER SATELLITE ISSUES**

### **The 136-137 MHz Band**

NOAA polar-orbiting satellites (originally the TIROS-N series and also known as the NOAA series) have in the past been designed to use the 136-137 MHz band for Automatic Picture Transmission (APT) downlinks on a primary basis. Effective 1 January 1990, these transmissions became secondary in accordance with Footnote (FN) 595. Future generations of NOAA's satellites will use the 137-138 MHz band for these downlinks, but spacecraft of existing design will continue to be used until approximately 1998. ARINC's proposal<sup>1</sup> to delete secondary services from the 136-137 MHz band is acceptable provided it is made effective not earlier than 1998.

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<sup>1</sup> ARINC Comments, page 5.

### The 137-138 MHz Band

This band will, for the foreseeable future, continue to be heavily used by APT and other METSAT downlinks to transmit environmental data. Receivers are widely distributed around the world, since the signals are designed to be accessible to the public via a variety of simple and inexpensive receiving and display systems. During the 1992 World Administrative Radio Conference (WARC-92), the band was reallocated to provide access to the Mobile Satellite Service (MSS) while guaranteeing the protection of meteorological users. This was accomplished by making the MSS secondary in segments near the top and bottom of the band, around which segments METSAT operators could design their future spacecraft. Domestically, certain additional bands were made secondary for MSS to allow time for the METSAT service to change frequencies.

ORBCOMM, which plans to use this band for its proposed "Little LEO" system, proposes<sup>2</sup> that the WARC-92 secondary allocations for the MSS be made primary at WRC-95. This flies in the face of agreements made before WARC-92 under which NOAA agreed to use of the band by the MSS. NOAA must object to any enhancement of MSS status in any METSAT band absent a showing, which neither ORBCOMM nor anyone else has made, that METSAT operations would not thereby be injured.

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<sup>2</sup> ORBCOMM Comments, page 5.

### The 1675-1710 MHz Band

This band is heavily used worldwide for downlinks from METSATs and meteorological aids (radiosondes). NOAA's use includes data recovery from satellites, and the frequent launch of radiosondes from about 120 locations. The band is used similarly by others in the United States and throughout the world.

The band was reallocated by WARC-92 to provide access to the MSS in ITU Region 2 only. This change took place over U.S. objections, and was met with a U.S. footnote noting that the band would not be used for MSS within the United States. Several commenters propose to use the 1675-1710 MHz band for the MSS, apparently in the belief that a mistake, once made, must be exacerbated.

AMSC suggests<sup>3</sup> that wind profilers will shortly obviate the need for radiosondes. In fact, profilers and radiosondes are complementary systems, and both will continue to be needed for years to come.

AMSC suggests<sup>4</sup> also that this band could be shared by METSATS, Meteorological Aids and MSS. Certain proponents of MSS expansion in the band have produced studies suggesting that this could be accomplished by a complicated, expensive, and failure-prone satellite system which nobody (certainly not its proponent) has offered to build. Whether sharing could be accomplished under practical circumstances has yet to be determined. Sharing criteria are being developed by a NOAA-funded study.

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<sup>3</sup> AMSC Comments, page 7.

<sup>4</sup> AMSC Comments, page 7.

Motorola suggests<sup>5</sup> that consideration be given to expansion of the existing Region 2 allocation for MSS in this band to cover all three ITU Regions. Given the lack of agreement on compatibility issues, this proposal must be dropped, at least for the immediate future.

Given the drastic harm that could come from degraded weather forecasts should the band not be shareable, the United States must continue to oppose further expansion of the MSS in this band.

## **WIND PROFILER ISSUES**

NOAA was one of the earliest developers of wind profiling technology, and has been in the forefront of efforts to provide spectrum for the operational use of these systems in weather forecasting. NOAA now advocates WRC consideration of profiler allocations as early as possible, for several reasons.

In the past, profilers have been built near 404 MHz by several countries because no other band had been allocated for this use. Currently, profilers at or near this frequency are the only mid-band (near 400 MHz) type commercially available. It has now become clear that use of this frequency threatens the SARSAT system. Indeed, a number of interference incidents have occurred with non-NOAA profilers, due either to inadequate equipment design or improper operation. In order to avoid proliferation of profilers which hazard SARSAT's life-saving mission, it is essential that alternate spectrum be designated as quickly

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<sup>5</sup> Motorola Comments, pages 8-9.

as possible.

A number of countries have expressed interest in the use of profilers, and several have already built and operated them. Many administrations lack the resources needed to develop profilers on new frequencies, since much of the equipment is highly frequency sensitive. The initial design of NOAA's 404 MHz antenna alone cost approximately \$800,000. The creation of uniform profiler bands would significantly reduce the cost of buying profilers in small quantities, enabling less affluent nations to employ wind profilers. It should also be noted that American manufacturers are among the few already positioned to produce profilers in quantity, and prompt approval of uniform bands would work to their benefit.

We note that National Academy of Sciences (NAS) supports addressing Wind Profiler allocations at WRC-95. The support of the Academy, which is concerned primarily with the advancement of science and has no other axe to grind, is greatly welcomed.

Motorola proposes<sup>6</sup> that wind profiler allocations not be treated at the 1995 WRC, basing its remarks on alleged "serious interference concerns". Motorola's concerns were expressed in its Comments in ET Docket NO. 93-59, and were addressed in NOAA's Reply Comments in that proceeding. They were shown to be based on a misinterpretation of the NTIA report which discussed profiler characteristics. Motorola's further objection to profilers is understandable

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<sup>6</sup> Motorola Comments, page 18.

in light of their proposal<sup>7</sup> that the 1993 and 1995 World Radio Conferences should be narrowly focussed on satisfying its own demands for more MSS spectrum.

For the reasons given above, NOAA believes that the United States should advance the cause of wind profiler allocations before the ITU as soon as success appears possible, given the status of domestic proceedings and the work of Radiocommunication Sector (formerly CCIR) Task Group 8/2.

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<sup>7</sup> Motorola Comments, page 18.



I certify that on this date I have caused copies of these Reply Comments to be mailed to the individuals listed.



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